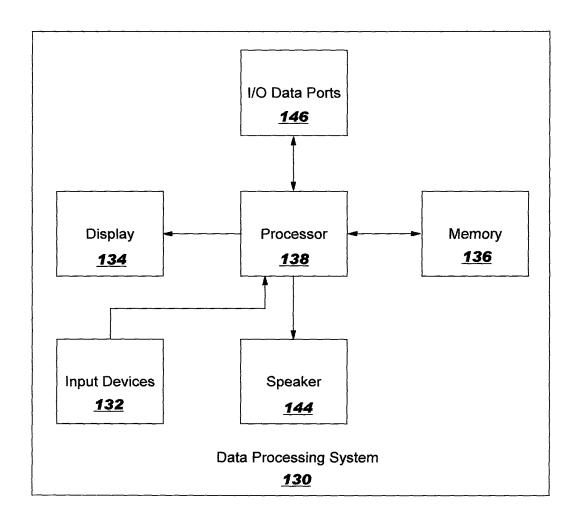RSW92001024US1
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FIG. 1

```
                    ┌─────────────────┐
                    │  I/O Data Ports │
                    │       146       │
                    └─────────────────┘
                             ↕
┌──────────────┐    ┌─────────────────┐    ┌──────────────┐
│   Display    │◄──►│    Processor    │◄──►│    Memory    │
│     134      │    │       138       │    │     136      │
└──────────────┘    └─────────────────┘    └──────────────┘
                             ↕
┌──────────────┐    ┌─────────────────┐
│Input Devices │    │     Speaker     │
│     132      │    │       144       │
└──────────────┘    └─────────────────┘

            Data Processing System
                     130
```
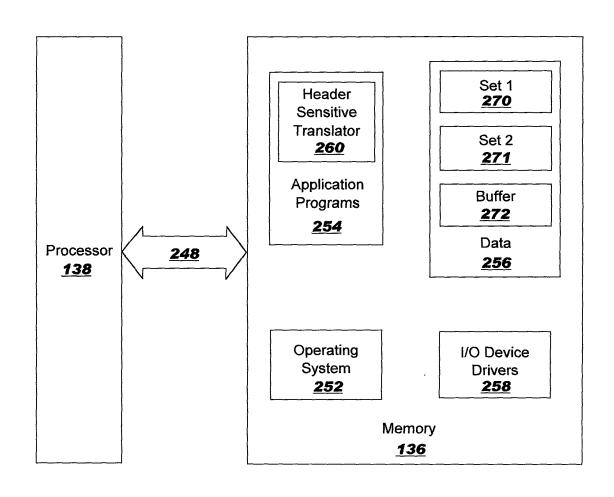
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FIG. 2

Processor
138

248

Header
Sensitive
Translator
260

Application
Programs
254

Operating
System
252

Set 1
270

Set 2
271

Buffer
272
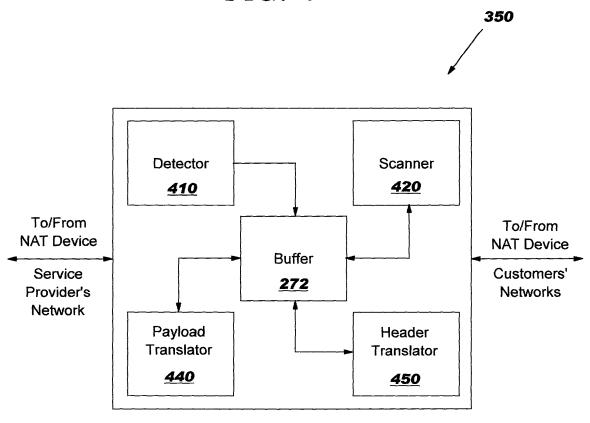
Data
256

I/O Device
Drivers
258

Memory
136

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FIG. 3

300

Customer A's
Network
310

Customer B's
Network
320

NAT
Device
330

CNAT
340

Header
Sensitive
Translator
350

NAT
Device
360

Service Provider's
Network
370

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FIG. 4

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FIG. 5

Sets of Translation Rules	IP Address	Corresponding Normalized IP Address	
Set 1 (Customer A)	10.10.x.x 92.168.x.x	9.37.x.x 9.38.x.x	270
Set 2 (Customer B)	10.10.x.x 92.168.x.x	9.39.x.x 9.40.x.x	271

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FIG. 6

```
                    ┌──────────┐
                    │  Begin   │
                    └──────────┘
                         │
                         ▼
              ┌─────────────────┐   610
              │   Receive a     │
              │   packet        │
              └─────────────────┘
                         │
                         ▼
                    ◇ 620
              ╱ Has a ╲
             ╱ translation ╲──No──►  ┌─────────────────┐   630
             ╲ occurred?   ╱         │   Discard       │
              ╲         ╱            │   Packet        │
                    ◇                └─────────────────┘
                    │
                   Yes
                    │
                    ▼
              ┌─────────────────┐   640
              │   Search        │
              │   Payload for   │
              │   IP Address    │
              └─────────────────┘
                    │
                    ▼
              ┌─────────────────┐   650
    ┌────────►│  Translate IP   │
    │         │  Address using set │
    │         │  of translation Rules │
    │         └─────────────────┘
   Yes              │
    │               ▼
    │          ◇ 660
    │    ╱ Another IP ╲
    └───╱ address in the ╲
        ╲   packet?    ╱
          ╲         ╱
                ◇
                │
               No
                │
                ▼
          ┌──────────┐
          │   End    │◄──────────────────────┘
          └──────────┘
```
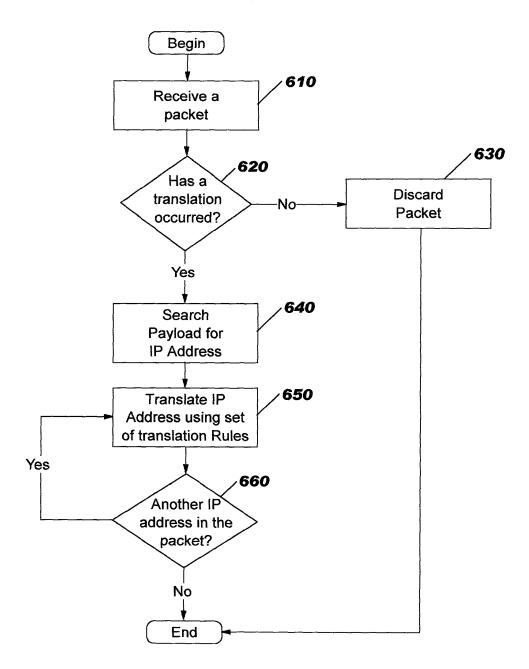
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FIG. 7

```
                    ┌──────────┐
                    │  Begin   │
                    └────┬─────┘
                         │
                         ▼
                 ┌─────────────┐    710
                 │  Receive a  │
                 │   packet    │
                 └──────┬──────┘
                        │
                        ▼
                 ┌─────────────┐    720
                 │Identify Source│
                 │ Address and │
                 │ Destination │
                 │  Address    │
                 └──────┬──────┘
```

Source Address present in a set? 722

Multiple Sets? 725

Is it in Set 0? 726

Discard Packet 745

Destination Address present in a set? 724

Is it in Set 0? 727

Translate Source and/or Destination Address in the Header Using Set 0 728

Discard Packet 740

Search Payload for IP Address 730

Translate IP Address in Payload using the set of translation Rules 750

Another IP address in the packet? 760

End